

## REMARKS

### 35 U.S.C. §103(a) Rejections

#### Sharp:

Claims 33 - 35, and 39, are rejected under 35 U.S.C. §103(a) as obvious over U.S. 5,297,512 issued to Sharp (hereinafter "Sharp") for the reasons of record stated at pages 3 and 4 of the Office Action. Applicants respectfully traverse this rejection. Sharp purports to relate to an ultrasonic hairbrush for grooming an animal.

Page 3 of the Office Action asserts that *"a cleaning head (Figure 1) is adapted to be removably mounted to the housing wherein the head is capable of being interchangeable (as it is attached by a "friction fit")"*. Applicants disagree with this assertion. There is no suggestion in Sharp either express or implied that the cleaning head of Sharp is interchangeable. In fact, Column 2, lines 35 - 40, of Sharp provides only the following with regard to the friction fit *"The housing has been shown in position removed from the hairbrush portion and in use, the housing is secured by a friction fit directly to a first member to which the ultrasonic sound signal generating circuit and vibrating means are mounted and thereby covers these components accordingly."*

Just because the housing of Sharp is secured by a friction fit does not mean that the cleaning head is interchangeable. There is no suggestion in Sharp to link the friction fit disclosed in Sharp with the interchangeable cleaning head claimed by Applicants. It is impermissible to utilize Applicants' invention to reconstruct the prior art. "Obviousness may not be established using hindsight or in view of the teachings or suggestion of the inventor." Hence, Claims 33 - 35 and 39 of the instant application are unobvious over Sharp.

Furthermore, Page 3 of the Office Action provides that Sharp does not disclose utilizing a cleaning surface area greater than  $6.25 \text{ cm}^2$ . Applicants agree with this. However, the Office Action goes on to indicate that *"Figure 1 indicates a finger defining a scale for the size of the device indicating that the area is very likely greater than  $6.25 \text{ cm}^2$ "* assertion.

Applicants disagree with this assertion. To establish a prima facie case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference. Second, there must be a reasonable expectation of success. Third, the prior art reference must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. MPEP 2142 citing *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Figure 1 of Sharp shows a finger touching the housing of the apparatus. However, there is nothing to suggest in Figure 1 Applicants' limitation of a minimum cleaning head surface area of greater than about  $6.25 \text{ cm}^2$ . Nor is it clear that the finger touching the housing of the apparatus equates to a cleaning head greater than about  $6.25 \text{ cm}^2$ . As provided above, it is impermissible to use hindsight to reconstruct the prior art from Applicants' invention.

Hence, as a prima facie case of obviousness has not been met, Claims 33 - 35 and 39 of the instant application are unobvious over Sharp. Applicants respectfully request that this rejection be reconsidered and withdrawn.

**Sawyer:**

Claims 33 - 36, 38 - 39, 41 - 51, and 55 are rejected under 35 U.S.C. §103(a) as obvious over U.S. 3,357,033 issued to Sawyer (hereinafter "Sawyer") for the reasons of record stated at pages 4 - 6 of the Office Action. Sawyer purports to relate to a cleaning tool which utilizes a source of sonic energy in the lower sonic range. [See column 1, lines 10 - 15 and lines 50 - 55 of Sawyer]. The cleaning tool taught by Sawyer does not utilize ultrasonic energy. Furthermore, the cleaning tool of Sawyer does not teach or suggest a cleaning device having *inter alia* a transducer means having an average oscillating frequency of from about 1000 Hz to about 100 KHz.

On page 4 and 5 of the Office Action the Examiner indicates that Sawyer releases sonic energy at the surface "*that is of a frequency from about 1000 Hz to about 100 kHz in that the wave energy is in the lower sonic range and is analogous to wave energy*". Applicants respectfully disagree with this assertion as there is no teaching in Sawyer to suggest either expressly or impliedly this frequency range. In fact, Sawyer discloses at column 3, lines 50 - 55 that "*Good results are produced when for a 110 volt source of electrical energy a motor operating at somewhere between 45 and 70 watts is made use of capable of generating relatively low frequency sound waves typically between 50 and 150 cycles per second*". The 50 - 150 cycles per second (i.e.; 50 Hz - 150 Hz) disclosed by Sawyer is well below Applicants' claimed range of from about 1000 Hz to about 100 kHz.

On page 5 of the Office Action, the Examiner makes reference to an internet web cite <http://www.tpub.com/neets/book10/39e.htm>. However, this reference is not dated and hence it is not clear if it was published after the filing date of the instant application and thus disqualified as a reference. Applicants request clarification of the publication date of this reference.

On page 6 of the Office Action, the Examiner asserts that "*it would have been obvious to one of ordinary skill in the art to construct a cleaning head for a sonic surface cleaner that is used for a floor to have a cleaning head surface greater than 6.25 cm<sup>2</sup> or having a power output of at least 0.02 watts/cm<sup>3</sup>*". Applicants disagree with this assertion. As indicated by Applicants in the discussion above, to establish a prima facie case of obviousness, three basic criteria must be met. First there must be some suggestion or motivation either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference. Second, there must be a reasonable expectation of success. Third, the prior art reference must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. MPEP §2142 citing *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

With regard to the Examiner's assertion that it would have been obvious to utilize a cleaning head surface greater than 6.25cm<sup>2</sup>, there is no teaching or suggestion in Sawyer that would lead one

to this specific limitation. Yet further, with regard to the Examiner's assertion that it would have been obvious to construct a cleaning head having a power output of at least  $0.02 \text{ watts/cm}^3$ , there is no disclosure or teaching in Sawyer which suggests any type of power output. Hence, there can be no reasonable expectation of success since Sawyer is totally silent on power output. As provided for in MPEP §2142, it is impermissible for the Examiner to use Applicants' claimed invention to reconstruct the prior art in hindsight.

Hence, Claims 33 - 36, 38 - 39, 41 - 51, and 55 are not obvious in view of Sawyer. As Claims 33 - 36, 38 - 39, 41 - 51, and 55 are unobvious in view of Sawyer, Applicants respectfully request that this rejection be reconsidered and withdrawn.

**Bock (U.S. 5,369,831):**

Claims 33 - 35, 39, and 42 - 45 are rejected under 35 U.S.C. §103(a) as obvious over U.S. 5,369,831 issued to Bock (hereinafter "Bock '831") for the reasons of record stated at pages 6 - 7 of the Office Action. Applicants respectfully traverse this rejection. Bock '831 teaches an ultrasonic toothbrush for removing plaque and tartar from teeth. Pages 6 and 7 of the Office Action indicate that *"the transducer means has an average oscillating frequency of from about 1000 Hz to about 100kHz, since ultrasonic refers to subsonic, sonic, or ultrasonic which from definitions previously stated fall into the range of about 1000 Hz to about 100 kHz."* To support this assertion, the Office Action references column 2, lines 66 - 68 of Bock '831 which indicates only that *"in the following discussion, unless otherwise qualified, the term "ultrasonic" refers to either subsonic, sonic, or ultrasonic frequencies"*. Applicants respectfully disagree with the Examiner's assertion. The Examiner is reading Applicants' claimed range into Bock '831. This is impermissible as the prior art may not be reconstructed in hindsight based on Applicants' claimed invention. [See MPEP §2142]. There is no teaching within Bock '831 that points to or suggests either expressly or impliedly Applicants' specific claimed average oscillating frequency. In fact, Bock '831 provides no teaching to suggest any oscillating frequency ranges.

In the rejection, the Examiner cites to The American Heritage Dictionary of the English Language, Fourth Edition Copyright 2000 by Houghton Mifflin Company. However, this reference is not dated and hence it is not clear if it was published after the filing date of the instant application and thus disqualified as a reference. It should be noted however, that the copyright date of 2000 cited by the Examiner is after the priority date of the instant application. Applicants request clarification of the publication date of this reference. Additionally, page 7 of the Office Action references the web site: <http://www.avroomservice.com/glossary/index.htm>. However, this reference is not dated and hence it is not clear if it was published after the filing date of the instant application and thus disqualified as a reference. Though it should be noted that this web site indicates a copyright date of 2001 which is after the priority date of the instant application. Applicants request clarification of the publication date of this reference.

Yet further, Bock '831 does not teach or suggest either expressly or inherently a cleaning head which rests on a surface greater than about  $6.25 \text{ cm}^2$ . Claims 33 - 35, 39, and 42 - 45 of the instant application would be unobvious in view of Bock '831 as cleaning teeth would require a

cleaning head for resting on a surface smaller than  $6.25 \text{ cm}^2$  in order to fit into the mouth. Furthermore, one of ordinary skill in the art would expect a toothbrush to have a cleaning head much smaller than  $6.25 \text{ cm}^2$  in order to fit into the mouth. Hence, Bock '831 teaches away from the present invention.

Hence, as Claims 33 - 35, 39, and 42 - 45 are unobvious over Bock '831, Applicants respectfully request that the Examiner reconsider and withdraw this rejection.

**Bock (U.S. 5,546,624):**

Claims 33 - 35, 39, and 42 - 45 are rejected under 35 U.S.C. §103(a) as obvious over U.S. 5,546,624 issued to Bock (hereinafter "Bock '624") for the reasons of record stated at pages 8 - 9 of the Office Action. Applicants respectfully traverse this rejection. Bock '624 teaches an ultrasonic toothbrush for removing plaque and tartar from teeth. Bock '624 does not teach or suggest either expressly or inherently a cleaning head which rests on a surface greater than about  $6.25 \text{ cm}^2$ . Claims 33 - 35, 39, and 42 - 45 of the instant application would be unobvious in view of Bock '624 as cleaning teeth would require a cleaning head for resting on a surface smaller than  $6.25 \text{ cm}^2$  in order to fit into the mouth. Furthermore, one of ordinary skill in the art would expect a toothbrush to have a cleaning head much smaller than  $6.25 \text{ cm}^2$  in order to fit into the mouth. Hence, Bock '624 teaches away from the present invention.

Furthermore, Bock '624 does not teach or suggest a transducer means having an average oscillating frequency of from about 1000 Hz to about 100 KHz. With regard to the oscillation frequency of the Bock '624 toothbrush, page 8 of the Office Action indicates that "*the frequency is 1.6 MHz.*" The Office Action then goes on to assert that the 1.6 MHz is about 100 KHz. Applicants disagree with this assertion. Referring to column 8, line 43 of Bock '624, it is disclosed that a "*useful frequency is 1.6 MHz*". The frequency range claimed by Applicants is substantially lower than the 1.6 MHz (i.e., 1.6 MHz is equivalent to 1,600 KHz) disclosed by Bock '624. It is impermissible to reconstruct the prior art in hindsight utilizing Applicants' claimed invention as the template. [See MPEP §2142].

Yet further, page 8 of the Office Action indicates that "*the transducer means has an average oscillating frequency of from about 1000 Hz to about 100 kHz, since ultrasonic refers to subsonic, sonic, or ultrasonic which from definitions previously stated fall into the range of about 1000 Hz to about 100 kHz.*" To support this assertion, the Office Action references column 3, lines 51 - 54 of Bock '624. Referring to Bock '624 column 3, lines 51 - 54, this only indicates that "*in the following discussion, unless otherwise qualified, the term 'ultrasonic' refers to either subsonic, sonic, or ultrasonic frequencies*". Applicants respectfully disagree with the Examiner's assertion. The Examiner is reading Applicants' claimed range into Bock '624. This is impermissible as hindsight reconstruction of the prior art. [See MPEP §2142]. There is no teaching within Bock '624 that points to or suggests either expressly or impliedly Applicants' specific claimed average oscillating frequency. The only oscillating frequency disclosed by Bock '624 (i.e., 1.6 MHz) is in fact substantially higher than the average oscillating frequency claimed by Applicants.

Hence, as Claims 33 - 35, 39, and 42 - 45 are unobvious over Bock '624, Applicants respectfully request that the Examiner reconsider and withdraw this rejection.

**Hoffman in view of Sawyer:**

Claims 33 - 37, 39, 42 - 49, 51, 52, and 55 - 56 are rejected under 35 U.S.C. §103(a) as obvious over U.S. 5,890,249 issued to Hoffman (hereinafter "Hoffman") in view of Sawyer for the reasons of record stated at pages 9 - 10 of the Office Action. Applicants respectfully traverse this rejection. Hoffman does not teach or suggest *inter alia* an ultrasonic cleaning device.

Page 10 of the Office Action asserts that the cleaning composition of Hoffman is lye wherein lye *"is a process aid, antibacterial agent, a surfactant, "perfume", anti-microbial agent, etc."*. Applicants respectfully traverse this assertion. There is no teaching in Hoffman which discloses either expressly or implicitly a cleaning composition which is a process aid, antibacterial agent, surfactant, "perfume", or anti-microbial agent. It is impermissible for the Examiner to reconstruct the prior art in hindsight based in Applicants' application. [See MPEP §2142].

The Office Action asserts on page 10, that Sawyer *"discloses all elements above, including the teaching that a frequency in the lower sonic range, which falls into the range of 1000 Hz to 100 kHz, is a known and beneficial means for cleaning objects"*. As indicated above in Applicants' discussion of Sawyer, the cleaning tool taught by Sawyer does not utilize ultrasonic energy. Furthermore, the cleaning tool of Sawyer does not teach or suggest a cleaning device having *inter alia* a transducer means having an average oscillating frequency of from about 1000 Hz to about 100 KHz. It is impermissible for the Examiner to read Applicants' claimed limitations into the prior art as in accordance with MPEP §2142 the prior art may not be reconstructed based on Applicants' application.

Yet further, page 11 of the Office Action asserts that it would have been obvious for one of ordinary skill in the art *"to modify Hoffman by using a frequency from about 1000 Hz to 100 kHz rather than vibration for cleaning objects"*. As indicated above there is no teaching in either Sawyer or Hoffman to suggest this frequency. Hence, Claims 33 - 37, 39, 42 - 49, 51, 52, and 55 - 56 of the instant invention are unobvious over Hoffman in view of Sawyer. Applicants respectfully request that the Examiner reconsider and withdraw this rejection.

**Sawyer:**

Claims 53, 54, 57, and 58 are rejected under 35 U.S.C. §103(a) as obvious over Sawyer for the reasons of record stated on page 11 of the Office Action. The Office Action indicates that *"Sawyer discloses all elements regarding the device above however does not disclose instructions for using the product"*. Applicants agree that Sawyer does not disclose instructions for using the product. Furthermore, as Applicants have indicated in the discussion of Sawyer above, Sawyer does not disclose Applicants' claimed frequency range from about 1000 Hz to about 100 kHz. Nor does Sawyer disclose a cleaning head surface greater than 6.25cm<sup>2</sup>. Hence, Claims 53, 54, and 57 are not obvious in view of Sawyer. Applicants respectfully request reconsideration and withdrawal of this rejection.

**SUMMARY**

This is responsive to the Office Action dated December 16, 2005. As the rejections have been overcome, it is believed that the claims are in condition for allowance. Applicants respectfully request the rejections be reconsidered and withdrawn and the claims allowed.

Respectfully submitted,  
FOR: MCKENZIE ET AL.;

BY: 

Julia A. Glazer  
Attorney for Applicants  
Registration No. 41,783  
(513) 627-4132

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